Mumbai University

Syllabus + Books

B.Sc.IT: Semester – V

(Syllabus)

[2018 – 2019]

PAPER - IV

ELECTIVE – II

Enterprise Java

– : SYLLABUS : –

UNIT I

UNDERSTANDING JAVA EE | JAVA EE ARCHITECTURE, SERVER AND CONTAINERS | JAVA SERVLETS | SERVLET API AND LIFECYCLE | WORKING WITH SERVLETS & DATABASES

⇒ **Understanding Java EE:**
- *What Is An Enterprise Application?*
- *What Is Java Enterprise Edition?*
- *Java EE Technologies*
- *Java EE evolution*
- *Glassfish Server*

⇒ **Java EE Architecture, Server and Containers:**
- *Types Of System Architecture*
- *Java EE Server*
- *Java EE Containers*

⇒ **Introduction To Java Servlets:**
- *The Need For Dynamic Content*
- *Java Servlet Technology*
- *Why Servlets?*
- *What Can Servlets Do?*

⇒ **Servlet API And Lifecycle:**
- *Java Servlet API*
- *The Servlet Skeleton*
- *The Servlet Life Cycle*
- *A Simple Welcome Servlet*

⇒ **Working With Servlets:**
- *Getting Started*
- *Using Annotations Instead Of Deployment Descriptor*

⇒ **Working With Databases:**
- *What Is JDBC?*
- *JDBC Architecture*
- *Accessing Database*
- *The Servlet GUI And Database Example*

UNIT II

REQUEST DISPATCHER | COOKIES | SESSION | WORKING WITH FILES & NON-BLOCKING I/O

⇒ **Request Dispatcher:**
- *Resquestdispatcher Interface*
- *Methods Of Requestdispatcher*
- *Requestdispatcher Application*

⇒ **COOKIES:**
- Kinds Of Cookies
- Where Cookies Are Used?
- Creating Cookies Using Servlet
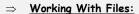- Dynamically Changing The Colors Of A Page

⇒ **SESSION:**
- *What Are Sessions?*
- *Lifecycle Of Http Session*
- *Session Tracking With Servlet API*
- *A Servlet Session Example*

⇒ **Working With Files:**
- *Uploading Files*
- *Creating An Upload File Application*
- *Downloading Files*
- *Creating A Download File Application*

⇒ **Working With Non-Blocking I/O:**
- *Creating A Non-Blocking Read Application*
- *Creating The Web Application*
- *Creating Java Class*
- *Creating Servlets*
- *Retrieving The File*
- *Creating index.jsp*

UNIT III

JAVA SERVER PAGES | ABOUT JAVA SERVER PAGES GETTING STARTED WITH JAVA SERVER PAGES | ACTION ELEMENTS | IMPLICIT OBJECTS SCOPE AND EL EXPRESSIONS | JAVA SERVER PAGES STANDARD TAG LIBRARIES

⇒ **Introduction To Java Server Pages:**
- *Why Use Java Server Pages?*
- *Disadvantages Of JSP*
- *JSP Vs Servlets*
- *Life Cycle Of A JSP Page*
- *How Does A JSP function?*
- *How Does JSP Execute?*

⇒ **About Java Server Pages Getting Started With Java Server Pages:**
- *Comments*
- *JSP Document*
- *JSP Elements*
- *JSP GUI Example*

⇒ **Action Elements:**
- *Including Other Files*
- *Forwarding JSP Page To Another Page*
- *Passing Parameters For Other Actions*
- *Loading A JavaBean*

⇒ **Implicit Objects Scope And El Expressions:**
- *Implicit Objects*
- *Character Quoting Conventions*
- *Unified Expression Language [Unified El]*
- *Expression Language*

⇒ **Java Server Pages Standard Tag Libraries:**
- *What Is Wrong In Using JSP Scriptlets Tags?*
- *How JSTL Fixes JSP Scriptlets Shortcomings?*
- *Disadvantages Of JSTL*
- *Tag Libraries*

UNIT IV

ENTERPRISE JAVABEANS | GETTING STARTED WITH ENTERPRISE JAVABEANS | WORKING WITH SESSION BEANS & MESSAGE DRIVEN BEANS | INTERCEPTORS

⇒ **Introduction To Enterprise JavaBeans:**
- *Enterprise Bean Architecture*
- *Benefits Of Enterprise Bean*
- *Types Of Enterprise Bean*
- *Accessing Enterprise Beans*

Turn Over ☞

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ENTERPRISE JAVA
(SYLLABUS)

B.SC.IT
SEMESTER – V

- ▪ *Enterprise Bean Application*
- ▪ *Packaging Enterprise Beans*
- ⇒ **Getting Started With Enterprise JavaBeans:**
  - ▪ *Creating A Web Application*
  - ▪ *Creating An Enterprise Bean*
  - ▪ *Creating A Web Client [Servlet]*
  - ▪ *Creating A JSP File*
  - ▪ *Build The Web Application*
  - ▪ *Running The Web Application*
- ⇒ **Working With Session Beans:**
  - ▪ *When To Use Session Beans?*
  - ▪ *Types Of Session Beans*
  - ▪ *Remote And Local Interfaces*
  - ▪ *Accessing Interfaces*
  - ▪ *Lifecycle Of Enterprise Beans*
  - ▪ *Packaging Enterprise Beans*
  - ▪ *Example Of Stateful Session Bean*
  - ▪ *Example Of Stateless Session Bean*
  - ▪ *Example Of Singleton Session Beans*
- ⇒ **Working With Message Driven Beans:**
  - ▪ *Lifecycle Of A Message Driven Bean*
  - ▪ *Uses Of Message Driven Beans*
  - ▪ *The Message Driven Beans Example*
- ⇒ **INTERCEPTORS:**
  - ▪ *Request And Interceptor*
  - ▪ *Defining An Interceptor*
  - ▪ *AroundInvoke Method*
  - ▪ *Applying Interceptor*
  - ▪ *Adding An Interceptor To An Enterprise Bean*
  - ▪ *Build And Run The Web Application*

UNIT V

PERSISTENCE, OBJECT/RELATIONAL MAPPING AND JPA | JAVA PERSISTENCE API | WRITING JPA APPLICATION | HIBERNATE | WRITING HIBERNATE APPLICATION

- ⇒ **Persistence, Object/Relational Mapping And JPA:**
  - ▪ *What Is Persistence?*
  - ▪ *Persistence In Java*
  - ▪ *Current Persistence Standards In Java*
  - ▪ *Why Another Persistence Standards?*
  - ▪ *Object/Relational Mapping*
- ⇒ **Introduction To Java Persistence API:**
  - ▪ *The Java Persistence API*
  - ▪ *JPA*
  - ▪ *ORM*
  - ▪ *Database And The Application*
  - ▪ *Architecture Of JPA*
  - ▪ *How JPA Works?*
  - ▪ *JPA Specifications*
- ⇒ **Writing JPA Application:**
  - ▪ *Application Requirement Specifications*
  - ▪ *Software Requirements*
  - ▪ *The Application Development Approach*
  - ▪ *Creating Database And Tables In MySQL*
  - ▪ *Creating A Web Application*

Turn Over ☞

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- Adding The Required Library Files
- Creating A JavaBean Class
- Creating Persistence Unit [Persistence.Xml]
- Creating JSPS
- The JPA Application Structure
- Running The JPA Application

⇒ **Introduction To Hibernate:**
  - What Is Hibernate?
  - Why Hibernate?
  - Hibernate, Database and The Application
  - Components Of Hibernate
  - Architecture Of Hibernate
  - How Hibernate Works?

⇒ **Writing Hibernate Application:**
  - Application Requirement Specifications
  - Software Requirements
  - The Application Development Approach
  - Creating Database And Tables In MySQL
  - Creating A Web Application
  - Adding The Required Library Files
  - Creating A JavaBean Class
  - Creating Hibernate Configuration File
  - Adding A Mapping Class
  - Creating JSPS
  - Running The Hibernate Application

Turn Over ☞

– : BOOKS : –

1.
BOOK TITLE: JAVA EE 7 FOR BEGINNERS
AUTHOR'S: SHARANAM SHAH **|** VAISHALI SHAH
PUBLISHER: SPD
EDITION: 1ST
YEAR: 2017
PAPERBACK: 1092 PAGES
DOWNLOAD/BUY: @BLOGGER **|** @PINTEREST

2.
BOOK TITLE: JAVA EE 8 COOKBOOK
AUTHOR'S: ELDER MORAES
PUBLISHER: PACKT
EDITION: 1ST
YEAR: 09/APRIL/2018
PAPERBACK: 382 PAGES
DOWNLOAD/BUY: @BLOGGER **|** @AMAZON **|** @FLIPKART

3.
BOOK TITLE: ADVANCED JAVA PROGRAMMING
AUTHOR'S: UTTAM KUMAR ROY
PUBLISHER: OXFORD UNIVERSITY PRESS
EDITION: 1ST
YEAR: 21/APRIL/2015
PAPERBACK: 880 PAGES
DOWNLOAD/BUY: @BLOGGER **|** @PDF **|** @TORRENT